CLAIMS

We claim:

1. A composition of matter comprising an isolated polypeptide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7 and variants thereof.

2. The composition of claim 1, further comprising a carrier.

3. A method of detecting presence of antibodies to Ehrlichia comprising:

(a) contacting one or more polypeptides selected from the group consisting of the polypeptides shown in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and variants thereof, with a test sample suspected of comprising antibodies to Ehrlichia, under conditions that allow polypeptide/antibody complexes to form;

(b) detecting polypeptide/antibody complexes;

wherein the detection of polypeptide/antibody complexes is an indication that antibodies to Ehrlichia are present in the test sample.

4. The method of claim 3, further comprising contacting the complexes of step (a) with an indicator reagent comprising a signal generating compound that generates a measurable signal prior to the performance of step (b).

5. The method of claim 3, wherein the presence of antibodies to *Ehrlichia canis* are detected.

6. The method of claim 3, wherein the presence of antibodies to *Ehrlichia chaffeensis* are detected.

7. The method of claim 3, wherein the antibodies are fragments of antibodies.

8. The method of claim 3 wherein the amount of antibody in a test sample is determined.

9. The method of claim 3, wherein the polypeptide is attached to a substrate.

10. The method of claim 3, wherein the polypeptide provided is shown in SEQ ID NO:1.

11. The method of claim 3, wherein the polypeptide provided is shown in SEQ ID NO:2.

12. The method of claim 3, wherein the polypeptide provided is shown in SEQ ID NO:3.

13. The method of claim 3, wherein the polypeptide provided is shown in SEQ ID NO:4.

14. The method of claim 3, wherein the polypeptide provided is shown in SEQ ID NO:5.

15. The method of claim 3, wherein the polypeptide provided is shown in SEQ ID NO:6.

16. The method of claim 3, wherein the polypeptide provided is shown in SEQ ID NO:7.

17. The method of claim 3, wherein the one or more polypeptides are provided in a multimeric form.

18. The method of claim 3, wherein the test sample is a biological sample obtained from a mammal.

19. The method of claim 18, wherein the mammal is selected from the group consisting of humans and dogs.

20. The method of claim 3 wherein the method comprises an assay selected from the group of assays consisting of a reversible flow chromatographic binding assay, an enzyme linked immunosorbent assay, a western blot assay, and an indirect immunofluorescense assay.

21. A device containing one or more polypeptides selected from the group consisting of the polypeptides shown in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and variants thereof.

22. The device of claim 21, further comprising instructions for use of the one or more polypeptides for the identification of an Ehrlichia infection in a mammal.

23. The device of claim 22, wherein the identification of an Ehrlichia infection is done using a method of detecting presence of antibodies to Ehrlichia comprising:

(a) contacting one or more polypeptides selected from the group consisting of the polypeptides shown in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and variants thereof, with a test sample suspected of comprising antibodies to Ehrlichia, under conditions that allow polypeptide/antibody complexes to form;

(b) detecting polypeptide/antibody complexes;

wherein the detection of polypeptide/antibody complexes is an indication that an Ehrlichia infection is present.

24. The device of claim 22, wherein the Ehrlichia infection is caused by *Ehrlichia canis* or *Ehrlichia chaffeensis*.

25. An article of manufacture comprising packaging material and, contained within the packaging material, one or more polypeptides selected from the group consisting of the polypeptides shown in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and variants thereof.

26. The article of manufacture of claim 25 wherein the packaging material comprises a label that indicates that the one or more polypeptides can be used for the identification of Ehrlichia infection in a mammal.

27. The article of manufacture of claim 26, wherein the identification of an Ehrlichia infection is done using a method of detecting presence of antibodies to Ehrlichia comprising:

(a) contacting one or more polypeptides selected from the group consisting of the polypeptides shown in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and variants thereof, with a test sample suspected of comprising antibodies to Ehrlichia, under conditions that allow polypeptide/antibody complexes to form;

(b) detecting polypeptide/antibody complexes;

wherein the detection of polypeptide/antibody complexes is an indication that an Ehrlichia infection is present.

28. The article of manufacture of claim 26, wherein the Ehrlichia infection is caused by *Ehrlichia canis* or *Ehrlichia chaffeensis*.

29. A method of diagnosing an Ehrlichia infection in a mammal comprising:

(a) obtaining a biological sample from a mammal suspected of having an Ehrlichia infection;

(b) contacting one or more polypeptides selected from the group consisting of the polypeptides shown in SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, and variants thereof, with the biological sample under conditions that allow polypeptide/antibody complexes to form;

(c) detecting polypeptide/antibody complexes;

wherein the detection of polypeptide/antibody complexes is an indication that the mammal has an Ehrlichia infection.

30. The method of claim 29 further comprising contacting the complexes of step (b) with an indicator reagent comprising a signal generating compound that generates a measurable signal prior to the performance of step (c).

31. The method of claim 29, wherein the Ehrlichia infection is caused *by Ehrlichia canis.*

32. The method of claim 29, wherein the Ehrlichia infection is caused by *Ehrlichia chaffeensis.*

33. The method of claim 29, wherein the mammal is a human or a dog.

34. A monoclonal antibody that specifically binds to at least one epitope of an *Ehrlichia canis* or *Ehrlichia chaffeensis* polypeptide, said polypeptide selected from the group consisting of SEQ ID NO:1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, and SEQ ID NO:7.